

Notice of Allowability

Application No.

09/915,611

Applicant(s)

LINGAFELT ET AL.

Examiner

Melvin H. Pollack

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2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment and RCE submitted 9/14/05.
2. ☒ The allowed claim(s) is/are 1-27 and 36.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 12/2/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other see attached office action.

MHP

JASON CARROLL
SPB AV2145

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Anne Vachon Dougherty on 02 December 2005.

The application has been amended as follows:

Claim 19: A program storage device, readable by machine, tangibly embodying a program of instructions executable by the machine to, in an apparatus comprising a network resource server having at least one computer system comprising at least a central processing unit and server memory; and a network processor coupled to said network resource server comprising:

A plurality of interface processors;

Instruction memory for storing instructions accessible to said interface processors;

Data memory for storing data passing through said network processor to and from said network resource server accessibly to said interface processors; and

A plurality of input/output ports;

One of said input/output ports adapted for exchanging data passing through said network processor with an external network under the direction of said interface processors;

At least one other of said input/output ports adapted for exchanging data passing through said network processor with said network resource server;

Said method comprising the steps of:

Said network processor cooperating with said network resource server in directing the exchange of data between said input/output ports and the flow of data through said data memory to [and from] said network resource server in response to execution by said interface processors of instructions loaded into said instruction memory;

Said network processor monitoring the rate of data flow [outbound from] to said network resource server, computing a derivative of data flow rate over time to determine the rate of change of data flow, and modifying the instructions loaded into said instruction memory in response to the determined rate of change.

Claim 26: The program storage device according to claim 20 wherein said monitoring step comprises monitoring data flow [outbound from] to said network resource server and further comprising increasing the discard of inbound data upon the rate of change of [outbound] data falling below a predetermined boundary.

Claim 27: The program storage device according to claim 20 further comprising decreasing the discard rate of inbound data upon the rate of change of [outbound] data rising above a second predetermined boundary.

Claims 28-35: Cancelled

These amendments obviate the need for a restriction.

Allowable Subject Matter

2. Claims 1-27 and 36 are allowed.
3. The following is an examiner's statement of reasons for allowance: the examiner agrees with the applicant regarding the novelty and non-obviousness of the invention.
4. For claim 1, the invention is drawn to the development of a hardware device (P. 16, lines 11-12) that is separate and distinct from a hardware firewall, and is in fact placed in front of any firewalls in order to protect public sites (P. 15, line 23 – P. 16, line 3; P. 18, line 10 – P. 19, line 2). This device, then, is a self-contained device designed for preventing Denial of Service attacks (P. 15, lines 8-18) by monitoring changes in inbound flows (P. 17, lines 5-22), even if the attacks come from multiple sources (P. 19, line 3 – P. 20, line 5), and comparing a rate of change with a given threshold (P. 20, lines 6-24). To counteract an attack, the invention performs an activity of instruction modification separate and distinct from selectively discarding data flowing toward the network resource server (P. 15, lines 3-7). The structure and operation of this device is well detailed in the independent claims.
5. The examiner has determined that this combination of limitations is novel and non-obvious. While a traffic monitoring and routing system does detect congestion increases, such systems discard data packets rather than modify instructions. Security methods regarding denial

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of service do not fulfill the particular and detailed combination described above. The examiner has thus determined that the claims are novel and non-obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They regard denial of service background methods utilizing hardware solutions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin H. Pollack whose telephone number is (571) 272-3887. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

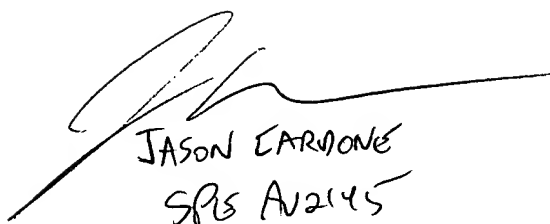
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02 December 2005



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